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Technology Deployment Guide

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Technology Deployment Guide

Move the technology from development to the operational environments in an orderly fashion; prepare all those who will use and administer it.

Introduction

This guide defines the key activities, artifacts, and roles necessary to achieve an orderly release of technology into the HS Agency usage environments, resulting in the [deployed configuration](#). This transition may include activities to package, distribute, configure, convert, install, and when necessary, de-install and retire the applications, platforms, networking, data files, and user or technical documentation and related IT services. The scope is broader than just those related to the technology items themselves. Activities also involve publicizing the changes, coordinating training among those who will use and administer the IT products.

Collectively, deployment activities achieve the technical goals for a [plateau](#), as noted in the [Plateau Plan](#). Depending on the scope of the change and associated risks, piloting and operational testing may be performed. Software licenses, operational support, service and maintenance agreements, as well as system management and administration procedures may be created, revised, or retired as appropriate.

Deployment requires coordination and interaction with individuals from all affected environments, such as the:

- Business environment, which may change parts of its business practices or work practices. It may, for example, introduce remote or mobile computing or support client direct-access to Human Services via the Web.
- Development environment, which may change its engineering practices to accommodate new or retired technology. It may, for example, involve introducing a new programming language, or decommissioning a mainframe.
- Operational environment, which may change its system monitoring, administration, and management practices and tools. It may require adjusting license agreements for installed or retired applications.

The scope of the coordination varies according to the amount of change expected. Small [corrective](#) or [perfective](#) maintenance changes may require minimal coordination.

Deploying a new application or [migrating](#) a significant part of an existing, automated

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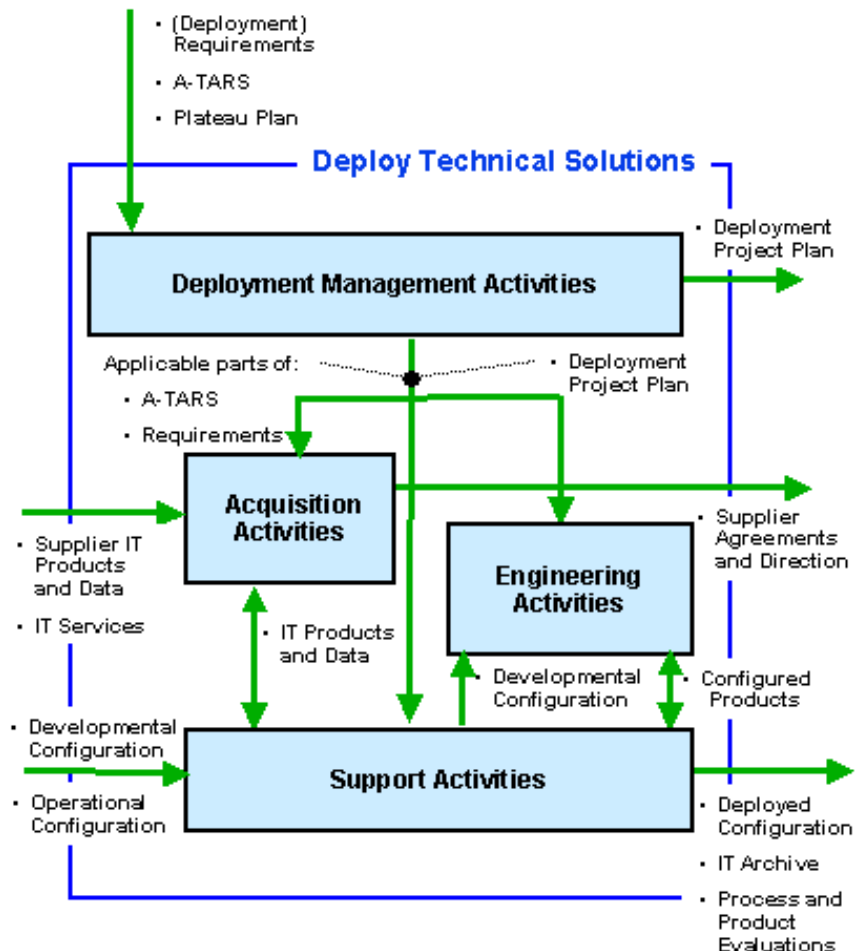
system to a new platform may require more coordination. Coordination includes necessary training of business, developer, operator, and administrative personnel, among others. The training may encompass both the technology and the specific business application.

See the [Organization of the IT Planning and Management Guides](#) to understand how the processes described in this guide relate to those of the other guides. [Background](#) is provided on the fundamental concepts and principles that apply across the guides. For information on how to customize this guidance, view the [Application of the IT Planning and Management Guides](#) pages.

Processes

Change in the usage environment is achieved by deployment [projects](#) and coordination within and across plateaus by the [IT Evolution Plan](#). Circumstances for each project determine the specific mix of activities to be performed. Consideration is given to the type of products being deployed and their impact on the HS Agency business users, [IT fabrication](#), or [IT technical operation](#) processes.

The common top-level activities are illustrated in the [figure](#) and described in the text below. Each deployment project consists of a tailored mix of one or more of these activities.



The top-level activities are:

1. [Project Management](#). These activities include practices necessary to plan, monitor, control, and terminate an IT deployment project.
2. [Engineering Activities](#). These activities include technical life-cycle practices needed to configure and tailor the technology items for use within each unique setting.
3. [Acquisition Activities](#). These activities include life-cycle practices needed to oversee any deployment services or products that would be obtained from outside the HS Agency.
4. [Support Activities](#). These activities include life-cycle practices needed to establish an effective project environment supporting the other three sets of activities. This includes [CM](#) and [QA](#) practices.

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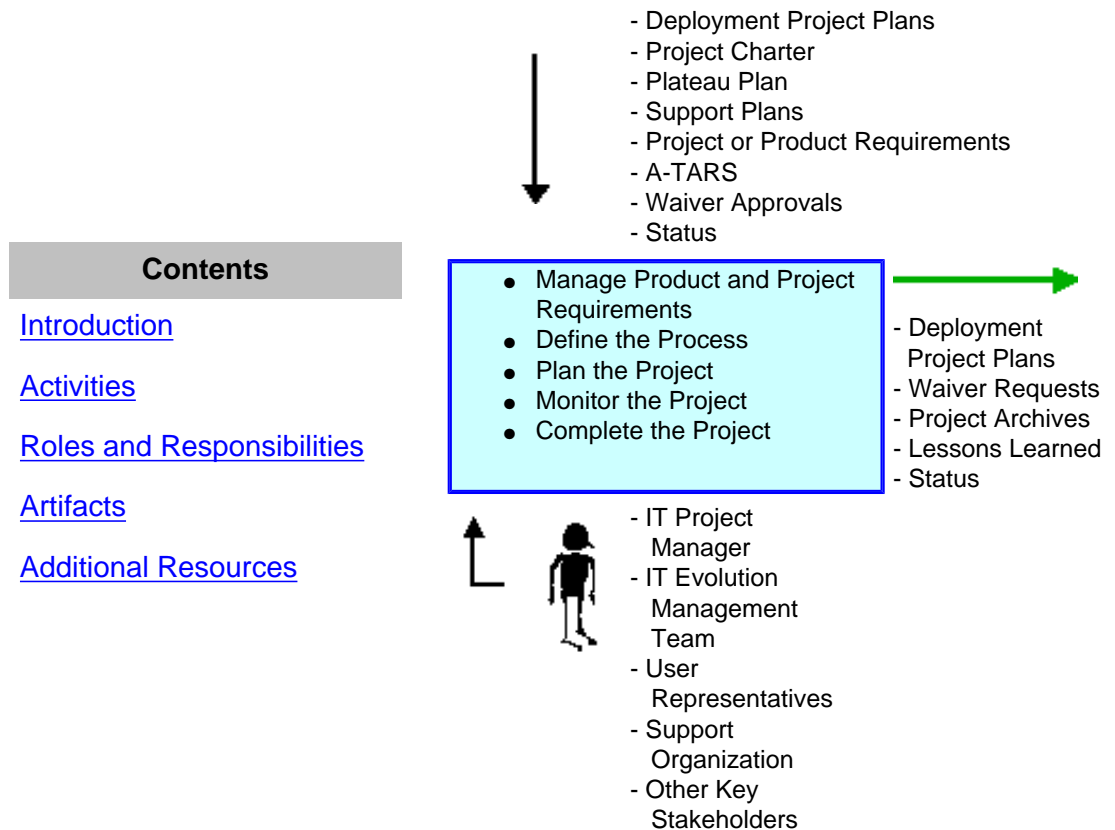
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A. Project Management Activities

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- Project Management Activities
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Form the deployment project, manage its tasks, and coordinate with other fabrication and operations projects, as needed.



Introduction

These activities are responsible for the life-cycle management of deployment [projects](#). Deployment projects achieve the incremental roll out of the IT products to achieve a [plateau's](#) goals. Deployment projects may implement many approaches to roll out these products. This includes:

- **Gradual release.** This generally involves piloting, where the product is initially released to selected user communities during a trial period and gradually transitioned into full use. Gradual release may be used when there are significant training, resource, logistic, or operational risks to the deployment. It may be used, for example, when deploying to many dissimilar sites in a County-administered

system. As the products are gradually rolled out, the HS Agency will be operating in a hybrid mode, using a combination of old and new applications, data, networking, platforms, and business and technical procedures. Interoperability between the old and new is required.

- **Single release.** When risk of deploying a product is low, the product may be placed into the operational environment with minimal coordination. This may occur for [corrective](#) or [perfective](#) maintenance releases or when the effect of a new technology is well understood.

The management techniques used on the deployment project should be specialized to accommodate the roll-out approach.

The lifetime of a project is assumed to be relatively short. Projects are considered complete once their products are in general use by the intended users, and responsibility for the operation and sustainment has moved to one or more [operations projects](#).

The set of deployment projects, their products, and interproject relationships are documented in the IT Evolution Plan. Deployment project-level plans detail the project's tasks within that context. Projects may be separately managed or managed as a set.

TANF Example:

Typically, the TANF eligibility organization is one of the largest in the State. Deploying new or updated applications to a large number of users is inherently high risk. Planning should consider the impact of the new TANF application on dependent systems and activities. For example, if delays or problems are encountered with processing TANF eligibility cases for the day, then other HS program activities in the Agency that interface with TANF may be impacted. To reduce the magnitude of these risks, the deployment should be well coordinated with those outside the direct TANF organization. Plans must allow for adequate testing and support beyond the TANF organization.

Another consideration during deployment is adequate testing of infrequently executed functionality. While daily, weekly, or monthly processing cycles may be adequately tested, longer quarterly, semi-annual, or annual jobs may be over looked. Contractors deploying the system may no longer be available when these jobs execute (in realistic conditions) for the first time. The deployment plans should therefore address how adequate support will be available when key, infrequently executed jobs are performed. This may require Quality Assurance staff to explicitly check the results of these jobs, and having technical experts available to diagnose and correct any errors.

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Activities

The basic [fabrication management activities](#) also apply to the deployment projects. You may refer to those activities for additional detail. Actions applicable to deployment projects are described below:

- **Manage Product and Project Requirements.** The IT Project Team should coordinate the deployment timetable among the affected stakeholders and note interdependencies in the IT Evolution Plan. The schedule should be synchronized with the business process and coordinated with the HS program users and management.
- **Define Process.** The IT Project Team should establish the processes and detailed procedures that are to be followed to deploy the IT products and data into the operational environment. Minimally, this includes key activities that are critical to ensuring that the deployed products work as intended and that individuals can effectively use them to support their work. This may require forming a pilot team to serve as a help desk on wheels, able to travel to and work directly with users during the transition.
- **Plan the Project.** The IT Project Team should prepare and maintain a detailed deployment plan with adequate resources for all deployment activities (travel, diagnostic tools, documentation). The plan will address the specialization of the developmental configuration for each site, such as loading site-specific data. Planned activities may include performing operational testing with site-specific scenarios, assembling and releasing the products, and installing onsite specific platforms. End-of-lifetime activities such as deactivating and removing retired applications and platforms are included. Advertising and marketing, training, pilot support, and inventory control activities should also be planned as needed.
- **Monitor the Project.** The IT Project Team monitors the deployment activities. They need to make and track commitments with the affected stakeholders. These items are generally noted as assumptions in the deployment plans (e.g., training users, having adequate access to the site for installation, or defining expected networking infrastructure). These items may not be under direct control of the project. Assumptions regarding them may represent risks to the deployment project.
- **Complete the Project.** Once ownership has transitioned to the user community or HS program, the IT Project Team should collect, analyze, distribute, and archive the lessons learned and other project information, as appropriate.

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Roles and Responsibilities

The key roles and their responsibilities are as follows:

- [IT Project Manager](#). This individual has primary responsibility for these activities, assisted by the [IT Project Team](#) and staff, which may include an [Estimation Analyst](#) or [Contract Manager](#). An IT Project Manager may manage one or more deployment projects simultaneously.
- [IT Evolution Management Team](#). These individuals, in particular the [IT Evolution Manager](#), have oversight responsibility for all projects. The IT Project Team coordinates with the IT Evolution Management Team when planning and controlling the project.
- [User Representatives](#). These individuals collaborate with the IT Project Team to provide details for planning and managing the deployment.

- [Support Organization](#). Individuals with expertise in the [QA](#) or [CM](#) disciplines assist the management staff. They participate in the early project planning activities and provide oversight of the project practices and deployed products.
- [Other Key Stakeholders](#). Any group or individual with a vested interest in a deployed product. This includes representatives of [IT Project Teams](#) from other interdependent projects, [Pilot Team](#) members, and [HS program](#) users and management staff. All coordination is controlled via the Deployment Project Plan.

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Artifacts

The following information is used or produced by these activities. Templates, examples, and checklists for identifying and documenting these items are available through the [Additional Resources](#) section at the end of this page.

- [Deployment Project Plans](#). These work-level plans are the main product of these activities, updating the previous version, if it exists. They are used to guide the execution of all deployment activities, to coordinate actions with the stakeholders, and to report progress. They may include an [Estimate of the Situation](#) as necessary to document the conditions under which the project operates.
- [Project Charter](#). The Project Charter sets the scope and explains the authorities of the deployment project management. It is the foundation for the management approach.
- [Plateau Plan](#). The appropriate portion of the [IT Evolution Plan](#) identifies constraints and expectations for the project with regard to other interdependent projects. Deployment Project Plans must be consistent with the Plateau Plan.
- [Support Plans](#). These plans are integrated into the overall project plans.
- [Project or Product Requirements](#). This consolidates all the requirements and expectations imposed on the project from all sources: IT Evolution Plan, the [HS Program](#) staff, [IT Division](#), the Project Charter (constraints), and others. These requirements are used as a basis of defining and planning the deployment project, such as key cutover dates. Project success is defined by how well the requirements are satisfied. Plans are updated appropriately when any of these change.
- [A-TARS](#). The appropriate part of the A-TARS is used to guide technical management decisions for the project, such as the operational testing practices that are used.
- [Waiver Requests](#). Projects file waivers to be relieved from mandatory A-TARS requirements.
- [Waiver Approvals](#). Projects receive formal approval when they deviate from the A-TARS.
- [Status](#). Task progress and issues from engineering, acquisition, or support activities are used to manage project tasks. Project status is summarized and provided to the [IT Evolution Manager](#) and other oversight authorities on a periodic and event-driven basis.
- [Project Archives](#). Technical and management data from a project are archived for later analysis.
- [Lessons Learned](#). These are formally captured and disseminated at project completion.

Additional Resources

Resources applicable to this activity are cataloged below. Some items from the [fabrication project management resources](#) also may be used to perform the deployment project management activities. Lists of all available resources may be found in the [Resources](#) portion of the IT Planning and Management Guides.

Checklist: Deployment

A tailorable checklist to use for identifying items that may affect the deployment. 04-04-02

[HTML Format](#)

Template: Project Charters

Template for developing the charters for projects covered by the IT Evolution Plan. 02-01-02

[MS Word Format](#)

[HTML Format](#)

Example: Risk Management Plan

Example of a Risk Management Plan that defines a specific risk analysis and management process. 02-01-02

[MS Word Format](#)

Template: Estimate of the Situation (EoS)

Template for an Estimate of the Situation. 02-01-02

[MS Word Format](#)

Guidelines: Development of a Work Breakdown Structure (WBS)

Lists the steps in the development of either an activity-based WBS or a work-product-based WBS. 02-01-02

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B. Engineering Activities

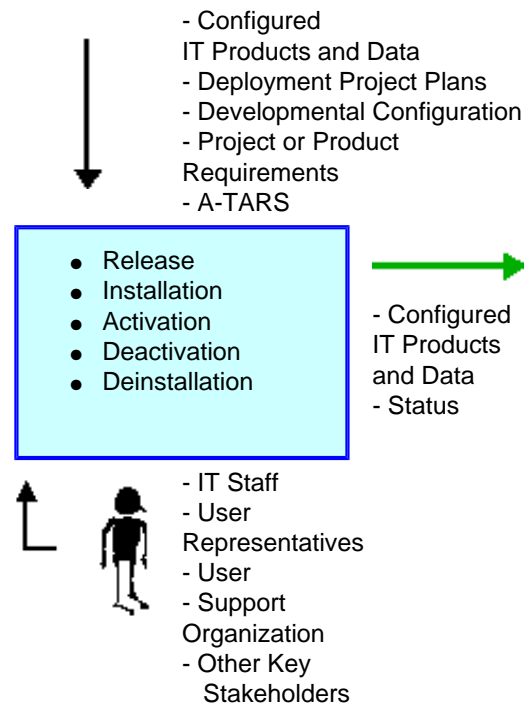
Provide technical assistance to configure and transfer the IT products into the hands of the users.

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Introduction

These technical activities are performed in the context of one or more technology [deployment projects](#). Individuals provide technical assistance to configure and install IT products within each usage environment (the deployed configuration). This includes the deactivation and removal of retired products, when necessary.

The number and type of products that are transferred may vary, from individual [components](#) to complete integrated [applications](#) or [packaged solutions](#). [Platforms](#), [information appliances](#), database management systems and associated content, or a complete integrated [AIS](#) may be deployed. Documentation such as user, maintenance, installation, or operation manuals and associated technical training materials are considered part of a deployment. The term product refers to any of these possibilities.

The type of technical assistance required depends on the number and types of products released, as well as how much adaptation and testing must be done to configure them for

each unique setting. The roll-out approach may also affect the technical assistance needed. (For gradual or single deployment, see [deployment project management activities](#)).

Engineering practices as well as overall adjunct technical requirements are derived from the [A-TARS](#). Unique deployment requirements are elicited from the [HS programs](#) staff. All product and process requirements are communicated through each project's deployment plans.

TANF Example:

Migrating TANF data stores to modern relational databases is a significant deployment challenge. For example, TANF case information may be distributed across many files (or databases), each with its own unique format. When migrating to a relational database, separate pieces of data must be collected, consolidated and consistently stored in an integrated and normalized data structure. Old data structures may be combined into a large and complex schema, which deployment engineers may not fully understand. There is an inherent danger of missed sequenced records or missing pieces of data, complicating the conversion. Automated tools to check and convert the data should be provided. Engineers should be able to make sure that all data to support a case is reliably converted to the new data structures.

The technical infrastructure is often changed as new applications are deployed. Users, familiar with platforms and protocols they have used for a long time, may naturally resist some changes. This resistance may impact user acceptance of the system, possibly affecting productivity. The deployment should take into account the user's need to adapt to the new applications and platforms. Users should be provided adequate access to technical training and help so they can adjust to these climate changes as quickly as possible. The level of support needed should be explicitly defined in the deployment plans.

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Activities

The basic [fabrication engineering activities](#) also apply to the deployment projects. You may refer to those activities for additional detail. Some technical activities applicable to deployment projects are described below:

1. **Release.** The IT Staff performs activities to create a site-specific release and prepares to install it. This may include the following actions:
 - Packaging products on a release media, as appropriate.
 - Configuring the products to each usage environment (e.g., counties).

- Formally qualifying and accepting the integrated set of products. This may include certifying products that are ready for general use.
- Advertising and promoting products to make users and others aware of their capabilities and set expectations.
- Providing technical training to prepare business users as well as those who will administer the system (e.g., operators).
- Coordinating deployment activities with changes in the business processes and practices (e.g., policies and procedures).

2. **Installation.** The IT Staff performs activities to ready the IT products and data for direct use by the intended users. This may include the following actions:

- Placing the product in the user setting. This could be achieved by simply activating a download through a Web page (a click to download a [plug-in](#), or you may need to provide assistance for an installation script on a [CD](#)).
- Configuring the user-selectable parameters (e.g., default folders, run-time data).
- Resolving conflicts between the newly installed product and other products.
- Populating data stores with business/operational data specific to the site.
- Coordinating with external interfacing systems.
- Performing final acceptance testing in the user environment.

3. **Activation.** The IT Staff or the computer system performs activities to execute the installed products. This may include the following actions:

- Executing or preparing for execution all the products to be run (startup scripts, user menus). Some products may execute continuously, such as a database management system. Others will activate on demand (when a user selects them) or as batch jobs.
- Performing database cutover.
- Going live with external interfaces.
- Identifying and resolving initial operational defects. This entails filing problem reports to record the defects and it's maintenance priority. The technical staff may have to implement patches or create a workaround until permanent fixes can be deployed. These changes should be clearly marked.

4. **Deactivation.** The IT Staff deactivates products or removes data from use. This may include the following actions:

- Shutting down the products, such as halting applications, servers, or network devices when they are to be removed from service.
- Taking data stores off-line.

5. **Deinstallation.** The IT Staff removes IT products from the inventory when the products are no longer needed. This may include the following actions:

- Removing complete products or parts, while leaving those parts that are shared across applications.
- Archiving data or applications that may need to be accessed in the future.
- Destroying products and/or data that will no longer be retained (e.g., magnetic media).

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Roles and Responsibilities

The key roles and their responsibilities are as follows:

- [IT Staff](#). These individuals perform the technical activities. They may be part of a [Pilot Team](#). Staff includes product developers or others with a thorough understanding of the products being deployed and how they are intended to be used.
- [User Representatives](#). These individuals interact with the IT Staff, receiving the technical training, participating in operational testing and evaluation, and serving as the initial set of users during piloting.
- [Users](#). These individuals receive the necessary training and orientation and use the deployed products to perform their job tasks.
- [Support Organization](#). Individuals with expertise in the [QA](#) or [CM](#) disciplines provide assistance to help ensure that the deployed products and processes are configured appropriately and have the expected quality.
- [Other Key Stakeholders](#). Any group or individual with a vested interest in a deployed product. This includes representatives of [IT Project Teams](#) from other interdependent projects, other [Pilot Team](#) members, and [HS program](#) users and management staff.

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Artifacts

The following information is used or produced by these activities. Templates, examples, and checklists for identifying and documenting items are available through the [Additional Resources](#) section at the end of this page.

- [\(configured\) IT Products and Data](#). This is the main result of these activities. The products and data are adapted, when necessary, from the products in the developmental configuration (e.g., configuring a commercial package on a client or server platform).
- [Deployment Project Plans](#). These work-level plans guide these technical activities.
- [Developmental Configuration](#). The integrated products and data released for deployment are configured and installed for each site.
- [Project or Product Requirements](#). These are allocated to the technical tasks to ensure that both the practices employed (e.g., operational interface testing) and the resultant IT products (configuration data) conform to the HS Agency and HS Agency programs' needs.
- [A-TARS](#). The appropriate part of the A-TARS is used to guide technical decisions for the deployment project. Any IT products and data produced by the project must be consistent with the A-TARS.
- [Status](#). Technical progress and issues are forwarded to the [project management activities](#). Status is checked against the tasks in the Deployment Project Plan.

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Additional Resources

Resources applicable to this activity are cataloged below. Some items from the [fabrication project engineering resources](#) also may be used to perform the deployment engineering activities. Lists of all available resources may be found in the [Resources](#) portion of the IT Planning and Management Guides.

Checklist: Deployment

A tailorable checklist to use for identifying items that may impact the deployment. 04-09-02

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C. Acquisition Activities

Manage the acquisition of custom or commercially available products or services that assist with the deployment.

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- Perform Make or Buy Analysis
- Solicit and Select Supplier
- Agree to Terms
- Manage the Relationship
- Accept the Product or Service
- Prepare for the Transition

- IT Products and Data
- Contracting Strategy Document
- Contractor Management Plan
- Contractor Procurement Documentation
- Status



- Acquisition Team
- Supplier
- Support Organization
- User Representatives
- IT Decision Makers
- Other Key Stakeholders

Introduction

These acquisition activities can be performed within the context of each deployment [project](#), or as a single project providing acquisition services to many other projects. These activities establish and manage a formal agreement to obtain IT products (and services) from suppliers external to the [HS Agency](#). These products or services will be used by the deployment projects (i.e., the [customer](#)). Although any type of [technology element](#) can be obtained, these activities generally address deployment services, such as qualified individuals to support the Pilot Team. See the [acquisition activities](#) performed on the [technology fabrication projects](#) for additional information.

TANF Example:

The development and implementation lifecycle for TANF applications and systems may be long. Significant schedule delays could affect a procurement. The original detailed purchasing requirements for specific versions of software, hardware, or services may no longer be applicable, at the time the purchase should occur. The items to be purchased may no longer be available or supported by the vendors. For a long procurement cycle, newer and more cost effective alternatives may become available.

The procurement process must therefore be flexible to allow for these changes. Technical requirements for the procurement should be derived from vendor and product neutral specifications. These should be derived from the Agency Technical Architecture and TANF system design documents. If vendor products change then new products can be reevaluated against the requirements and substituted if compliant and cost effective.

Since State TANF eligibility systems may interface with other Human Service activities, a joint approach to procurement practices must be coordinated. Other HS programs may have additional constraints, such as following the Advance Planning Document (APD) process from the Federal Program Office. These constraints would have to be accommodated in planning and executing the procurement.

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Activities

The basic [fabrication acquisition activities](#) also apply to deployment projects. You may refer to those activities for additional detail. Actions applicable to deployment projects are described below:

- **Perform Make or Buy Analysis.** The Acquisition Team should participate in decisions to purchase tools, equipment, or services needed to deploy or pilot released IT products. This includes setting up a Pilot Team. The deployment project may augment the Pilot Team with contractor personnel.
- **Solicit and Select a Supplier.** The Acquisition Team should participate in selecting the best candidates to support a deployment, based on state regulations and competitive considerations for overall best value. To reduce deployment risks, the supplier of any purchased products or developed systems may be available to aid in its deployment.
- **Agree to Terms.** The Acquisition Team will consider the best terms and conditions necessary to provide the expected level of support for deploying the IT products or systems (e.g., maximum time to respond to user problems, 24-7 response coverage). The appropriate type of contract should be determined based on the acquisition risks (e.g., firm fixed price, task order, cost plus).

- **Manage the Relationship.** The Acquisition Team should actively manage any service-based agreements. This may include oversight of contracted staff providing support as part of an integrated deployment or Pilot Team.
- **Accept the Product or Service.** The Acquisition Team should formally review and accept delivery of deployment products and services (e.g., ensuring that contracted individuals on the Pilot Team have prerequisite skills and knowledge).
- **Prepare for Transition.** The Acquisition Team should coordinate with the deployment project when they initially use the acquired products or services (e.g., noting that the delivered products continue to work as expected, or the level of service provided by the contractors is adequate).

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Roles and Responsibilities

The key roles and their responsibilities are as follows:

- [Acquisition Team](#). The [Contracting Officer](#) and the [Project Officer](#) have primary responsibility for the acquisition activities.
- [Suppliers](#). These individuals, from outside the HS Agency, provide the IT products and data. They may include [contractors](#), [vendors](#), or other State Agencies or organizations, as necessary. The supplier of deployment products and services may have provided the IT product that is being deployed to the operational environment.
- [Support Organizations](#). These individuals provide oversight of the processes used by the supplier and manage the configuration and quality of the delivered products.
- [User Representatives](#). Individuals that are part of the deployment projects, such as the [IT staff](#) or [Pilot Team](#), are the primary recipient of the acquired products and services. User representatives provide deployment needs to the Acquisition Team (staffing skills).
- [IT Decision Makers](#). These individuals have authority to select and enter into agreements with the suppliers. They may include members of the [IT Evolution Management Team](#), the HS [IT Division](#), or other executives ([CIO](#)).
- [Other Key Stakeholders](#). These individuals support the acquisition activities by providing subject matter expertise, as needed. They may include [IT staff](#), [Technical Architecture Team](#) members, and [IT project staff](#), among others.

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Artifacts

The following information is used or produced by these activities. Templates, examples, and checklists for identifying and documenting these items are available through the [Additional Resources](#) section at the end of this page.

- [IT Products and Data](#). This is the main result of these activities. Products are received from the suppliers and placed under [CM](#).

- [Contracting Strategy Document](#). This document is prepared as the result of a make or buy analysis and used to guide the solicitation, selection, and management of the suppliers. The document may have been prepared for a fabrication project, in which case it will be updated.
- [Project or Product Requirements](#). These are allocated to the acquisition tasks to guide the technical and nontechnical criteria for the acquired products or services. These requirements are communicated in the [Deployment Project Plan](#). This includes the appropriate parts of the [A-TARS](#).
- [Contract Management Plan](#). This document is produced and used to manage the supplier relationship. This document may have been prepared for a fabrication project, in which case it will be updated.
- [Contractor and Procurement Documentation](#). This represents the supplier agreements and obligations specific to the deployment project.
- [Contractor Status Reports](#). The supplier furnishes this information, checking progress and issues against the supplier's plans.
- [Status](#). Status is checked against the Contract Management Plan, and any supplier issues are analyzed, consolidated, and forwarded to the [project management activities](#) for review.

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Additional Resources

Resources applicable to this activity are cataloged below. Some items from the [fabrication project acquisition resources](#) also may be used to perform the deployment project acquisition activities. Lists of all available resources may be found in the [Resources](#) portion of the IT Planning and Management Guides.

Checklist: Deployment

A tailorable checklist to use for identifying items that may affect the deployment.

04-16-02

[HTML Format](#)

Template: Contracting Scorecard

Describes background of the contracting scorecard approach and identifies a tailorable list of common factors applied to the contracting scorecard.

02-01-02

[MS Word Format](#)

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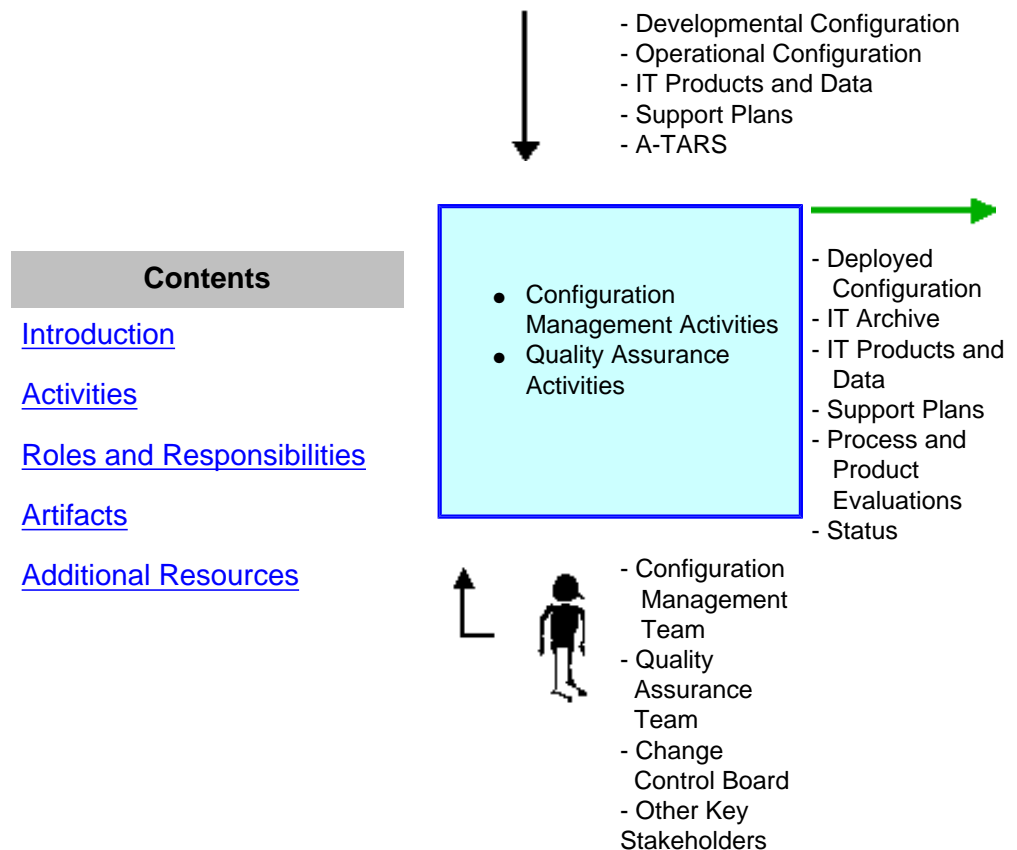


D. Support Activities

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Provide technical support to the deployment project's processes, to help manage the as-deployed configuration and its quality.



Introduction

These support activities can be performed within the context of each deployment [project](#), or as a single project providing support services to many other projects (a [CM](#) or [QA](#) project). These activities provide technical support to the [management](#), [engineering](#), and [acquisition](#) activities by:

- Managing changes to the IT products and data in the developmental configuration as they are adapted to each deployment site (e.g., counties). This establishes the deployed product [baselines](#) and supports piloting where multiple versions of applications are in use across many sites.

- Objectively reviewing and auditing the deployment project's processes and products to establish expectations about the quality of the deployed products and deployment services.

These support activities are similar to those performed for [technology fabrication projects](#). See those [support activities](#) for additional information.

TANF Example:

Typically, the number of users in a TANF organization is large. Deployment of new application systems often requires thousands of old green screen mainframe terminals to be replaced with PC workstations. Managing the configuration of a large number of platforms during deployment can be daunting, requiring a well defined configuration management approach. States replacing or making significant modification to their platforms must consider inventory management functions, such as identifying and tracking hardware and software changes to the workstations and servers. This includes removing and discarding hardware and software when no longer needed.

New and updated TANF systems increasingly rely on extensive networks. Large enterprise-wide area networks as well as many (hundreds) of local area networks may be used. The server and client platforms as well as the networking equipment may be spread across the State, covering large geographic areas. The ability to ensure that all profiles and servers are properly configured for site requirements is crucial to a smooth deployment.

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Activities

The basic [fabrication support activities](#) also apply to deployment projects. You may refer to those activities for additional detail. Actions applicable to deployment projects are described below:

- **Configuration Management Activities.** The Configuration Management Team will consider the unique aspects of the deployment, such as:
 - Concurrently supporting multiple pilot teams across many sites.
 - Creating and maintaining each site's unique configuration, noting adaptations from a common development configuration, and supporting multiple versions in use across sites. Documentation should be kept consistent with each version.
 - Organizing and tracking operational test data and live-test results for each site (e.g., test decks and external system interfaces with live data)
 - Auditing each site's deployed configuration (what was actually installed).
 - Supporting critical [CCB](#) decisions by ensuring that what was intended to be

installed actually was installed.

- Maintaining documentation and auditing use of external system interfaces.
- Archiving previous IT products and data that were retired from the operational environment, as needed.
- Propagating developmental configuration changes to the appropriate site's deployed configuration (e.g., propagate common bug fixes to each site).
- Tracking and appropriately handling emergency fixes made in the field, ensuring that they are reported and used to update the developmental configuration.

- **Quality Assurance Activities.** The Quality Assurance Team will consider the unique aspects of the deployment, such as:

- Reviewing deployment processes to ensure all critical deployment activities are performed in accordance with the documented procedures.
- Reviewing key automated functions on a periodic and event-driven basis to ensure that they work as intended in the actual usage environment (e.g., checking computer-generated reports and notices for correct information using real-data).
- Providing insight into technical or other risks to the CCB as needed to support the decision to cut over to the deployed technology.

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Roles and Responsibilities

The key roles and their responsibilities are as follows:

- [Configuration Management Team](#). These individuals have primary responsibility for performing the CM activities for one or more projects.
- [Quality Assurance Team](#). These individuals have responsibility for performing the QA activities for one or more projects.
- [Change Control Board](#). These executives approve the release of IT products for each site. They also review and approve changes to IT products after they are released. Individuals on the Board may include the [IT Decision Makers](#), the [IT Evolution Manager](#), the [HS Program Manager](#), and other interested parties.
- [Other Key Stakeholders](#). Any group or individual with a vested interest in the performance or status of the support activities. Stakeholders also include the [Pilot Team](#), the [IT staff](#), [user representatives](#), or others who interact with the support personnel. The [IT Project Manager](#), the [IT Evolution Management Team](#), and other senior managers (the [CIO](#)) and technical persons ([Chief Architect](#)) also will have insight into the status of these activities, as necessary, to understand the deployed configurations and their qualities.

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Artifacts

The following information is used or produced by these activities. Templates, examples, and checklists for identifying and documenting these items are available through the [Additional Resources](#) section at the end of this page.

- [Deployed Configuration](#). This is a major output of these activities-the initial as-deployed set of IT products and data, which was adapted from the developmental configuration for each site, as needed.
- [Developmental Configuration](#). This is a major input to these activities. The [IT Products and Data](#). in the developmental configuration may be adapted for each site and incorporated into the deployed configuration.
- [Operational Configuration](#). When a technology item is retired from use, it may be necessary to retain it in an accessible form for a period of time in case it is needed (e.g., saving data files and a way to access them if needed to support legal cases).
- [IT Archive](#). When IT items are taken out of service and cannot be immediately destroyed, they will be archived and controlled.
- [IT Products and Data](#). These are adapted from the developmental configuration by the [engineering activities](#) (e.g., for a specific site) or are procured by the [acquisition activities](#). These items are placed under change control, as needed. These products and related process data are subject to QA review and auditing actions as noted in the Quality Assurance Plan.
- [Support Plans](#). All support tasks are managed formally according to their appropriate specialty plans, such as the [Configuration Management Plan](#) or the [Quality Assurance Plan](#). These specialty plans augment the overall [Deployment Project Plans](#). [Project or product requirements](#) allocated to the support tasks are referenced in the support plans.
- [A-TARS](#). Applicable parts of the A-TARS will influence the support activities. The [A-TARS: Technology Guidelines](#) may include process-specific requirements that QA activities will review or audit.
- [Process and Product Evaluations](#). The results of QA reviews and audits are distributed to the appropriate individuals. Issues that cannot be resolved at the working level are elevated to deployment project and [IT Division](#). or other executive management, as necessary.
- [Status](#). Technical progress and issues are forwarded to the [project management activities](#). Status is checked against the tasks in the appropriate Support Plan.

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Additional Resources

Resources applicable to this activity are cataloged below. Some items from the [fabrication project support resources](#) also may be used to perform the deployment project support activities. Lists of all available resources may be found in the [Resources](#) portion of the IT Planning and Management Guides.

Checklist: Deployment

A tailorable checklist to use for identifying items that may affect the deployment. 04-16-02

[HTML Format](#)

Consolidated List - Support Resources.

A list of Web links, publications, and standards relating to CM and QA support activities.

03-03-02

[HTML Format](#)

Template - Quality Assurance Plan Outline

An abbreviated Table of Contents for a Quality Assurance Plan.

03-03-02

[MS Word Format](#)

[HTML Format](#)

Guidelines - Quality Assurance Reporting.

A set of guidelines for preparing Quality Assurance Reports.

03-03-02

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Deployment Resources

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• [Project Management Activities](#)

• [Engineering Activities](#)

• [Acquisition Activities](#)

• [Support Activities](#)

• Deployment Resources

◦ [Checklist: Deployment](#)

This consolidated list of resources can be applied to perform [technology deployment project](#) activities. [Technology fabrication project](#) resources may also be adapted to deployment projects. The date reflects the last time the item was changed. **NEW** indicates an item added since the last release of the IT Planning and Management Guides.

NEW

Checklist: Deployment

04-04-02

A tailorable checklist to use for identifying items that may affect the deployment.

[HTML Format](#)

Example: Risk Management Plan

02-01-02

Example of a Risk Management Plan that defines a specific risk analysis and management process.

[MS Word Format](#)

[HTML Format](#)

Template: Estimate of the Situation (EoS)

02-01-02

Template for an Estimate of the Situation.

[MS Word Format](#)

[HTML Format](#)

Guidelines: Development of a Work Breakdown Structure (WBS)

02-01-02

Lists the steps in the development of either an activity-based WBS or a work-product-based WBS.

[MS Word Format](#)

[HTML Format](#)

Sample: Software Estimation Procedure

02-01-02

A sample procedure for estimating the labor and cost of new software.

[MS Word Format](#)

[HTML Format](#)

Template: Outline of a Measurement Plan

02-01-02

Outline for a measurement plan that could be used for either the IT Evolution Plan, a specific Plateau Plan, or a Project Plan.

[MS Word Format](#)

[HTML Format](#)

Template: Project Charters

02-01-02

Template for developing the charters for projects covered by the IT Evolution Plan.

[MS Word Format](#)[HTML Format](#)**Template: Contracting Scorecard**

02-01-02

Describes background of the contracting scorecard approach and identifies a tailorable list of common factors applied to the contracting scorecard.

[MS Word Format](#)[HTML Format](#)**Consolidated List: Support Resources**

03-03-02

A list of Web links, publications, and standards relating to CM and QA support activities.

[HTML Format](#)**Template: Quality Assurance Plan Outline**

03-03-02

An abbreviated Table of Contents for a Quality Assurance Plan.

[MS Word Format](#)[HTML Format](#)**Consolidated List: Software Engineering Resources**

03-03-02

Contains links to sites that list additional software engineering practices and related topics.

[HTML Format](#)**Guidelines: Quality Assurance Reporting**

03-03-02

A set of guidelines for preparing Quality assurance Reports.

[MS Word Format](#)[HTML Format](#)

Have Something to Contribute?

We are always looking for a "few good things"... If you have something that you were looking for, or would like to contribute for others to leverage, please contact the IT Planning and Management guide team at statesystems@acf.hhs.gov

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Synopsis

The following checklists identify key management, engineering, acquisition, and support issues to address during a deployment.

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Management Activities Checklist

- ☒ The Deployment Project Plan considers the following activities: configuring and releasing products, operational testing and evaluation in the user area, installation on-site platforms, deactivation and removal, advertising and marketing, training, pilot support, and inventory of site resources after deployment.
- ☒ The deployment project plan considers change management issues such as stakeholder involvement, political sensitivities, culture shifts, and resistance to change from user communities.
- ☒ Deployment project plans are synchronized with the business events, according to calendar occurrence, business process synchronization, or staging per program directive (cost of living adjustments).
- ☒ Deployment project plans include explicit decision points at appropriate management levels for significant events, such as starting a pilot or full cutover (IT Division, CIO, HS Agency).
- ☒ The deployment project plan explicitly identifies actions for monitoring key assumptions and risks to the deployment.
- ☒ For high risk deployments, the Pilot Team either coordinates among or consists of members from each of the user communities.

- ☒ The deployment project plan considers the number of target sites, the configuration differences for each site (variants), and the unique support each site and variant would require.
- ☒ For gradual deployments, one or more Pilot Teams are established with expertise in the site and configuration technologies, and in the business processes or practices.
- ☒ Deployment project plans consider backward compatibility issues of platform upgrades for applications, interfaces with external systems, infrastructure load balancing, and throughput.
- ☒ Deployment project plans consider information security issues such as computer configurations, network services, data classification and accessibility, user authentication, intrusion detection, backup and recovery procedures, and security policies.
- ☒ The deployment project plan considers the interoperability between old and new applications, data, business processes, and work procedures—allowing them to coexist as necessary.
- ☒ A pilot process is defined to address the specific technologies and operational concerns within each pilot area.
- ☒ Pilot areas are identified by considering sites that may pose unique usage or support difficulties, such as many users distributed over large geographic regions, or a mix of sites with novice and advanced user skills.
- ☒ Pilot activities are synchronized based on business cycles to avoid changes and upgrades during high user demand.
- ☒ Individuals on the pilot team have all the appropriate technology and business skills to directly support the initial users. This may require outside (contracted) services augmented with internal HS Agency technical and business expertise.
- ☒ The Deployment Project Plan has activities to collect, analyze, and archive lessons learned when a deployment project is completed.
- ☒ CM and QA participate in the deployment planning to ensure that their concerns are addressed adequately before the plan is approved
- ☒ Executive management and site representatives should review, approve, and monitor execution of the plans.

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Engineering Activities Checklist

- ☒ Adequate resources (tools, travel, equipment) are provided to the deployment (Pilot) Teams. Lessons learned from previous deployments are used to assess the adequacy of the resources.
- ☒ The technical staff on the deployment (Pilot) Team should have a thorough understanding of the application design, implementation, and use. They should be able to identify and isolate faults and provide a work-a-round in the field, if necessary. Individuals may include lead developers or testers (contractor or HS Agency staff).

- ☒ The deployed configuration is certified to be correctly configured through operational testing/execution in the actual usage environment, using real user data, as needed.
- ☒ Interfaces with external systems in the actual operational environment are thoroughly tested, including likely failure scenarios. This may involve setting up a piloting environment, running test decks, and conducting live testing of interfaces as part of a formal qualification.
- ☒ Realistic application usage scenarios are used during testing.
- ☒ Testing covers time-based requirements such as generating reports daily, weekly, monthly, quarterly, annually, or based on significant events.
- ☒ Testing uses live data and extends beyond just the technology to include the entire business practice (putting a notice in an envelope and verifying that the printed zip+ 4 code appears in the envelope window).
- ☒ The electronic version of forms, policies, and procedures should be synchronized with user handbooks (binders). Multiple versions may be necessary on a site-by-site basis.
- ☒ Technical training is provided to State and contractor users, side-by-side in the usage environment. Technical training is coordinated with business training (processes and procedures).
- ☒ Anyone who will administer or use the system should be considered for training. Trainers consist of field staff who know the old way of doing things, and can relate it to the new (e.g., code "07" now in a dropdown text box).
- ☒ All key site-specific configuration parameter settings are recorded.
- ☒ A backup of the before and as-installed configuration is made, as appropriate.
- ☒ When necessary, emergency, onsite fixes are thoroughly documented, and problem reports are filed. When a formal correction is released, the temporary emergency fix is removed.
- ☒ When products are taken out of service, they are de-activated, removed, and archived (including data), as appropriate. Destruction procedures are detailed as necessary to ensure protection of sensitive data (e.g., magnetic media).
- ☒ Initial operational measurements are recorded and retained, establishing a baseline for the initially-deployed system.

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Acquisition Activities Checklist

- ☒ A Contractor Management Plan is created and maintained for each supplier relationship.
- ☒ Contracted services that assist in deployment should be integrated into the deployment plans and assessed for impact to the critical path.

- ☒ There should be adequate assistance where and when it is needed, such as with a State-wide deployment. This may include individuals or groups that help with telecommunications, networking, installation of platforms, movement of equipment, facilities, on-call (vendor) maintenance, Internet Service Providers, operations support, and other areas.
- ☒ Skills and knowledge of individuals providing contracted deployment services should be assessed against explicit qualifications (technical certifications, years of relevant experience).
- ☒ Contractor status reports are received periodically or after significant events. These are reviewed for individual performance, as well as possible effects across other contractors (critical path).
- ☒ Coupling of tasks across contractors (services) should be minimized to allow for measuring individual performance with limited cross-contractor dependencies.
- ☒ Criteria to accept the product or services should be explicit, objectively defined, and measurable as the work proceeds.

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Support Activities Checklist

- ☒ Configuration Management (CM) and Quality Assurance (QA) personnel have adequate understanding of the business and technology domain for the deployed products.
- ☒ CM includes inventory control of both new and retired equipment.
- ☒ The useful lifespan of data is determined and its archival or destruction is planned, as necessary. Records are retained, as needed.
- ☒ CM allows a fast track for emergency bug fixes, but assures that these changes are removed once a production quality change is released.
- ☒ CM controls and administers multiple site configurations within and across sites. Differences and similarities among sites should be identified.
- ☒ A Configuration Control Board (CCB) with site representation tracks and approves major configuration changes.
- ☒ Site change requests are managed and tracked.
- ☒ QA reviews the deployed product to ensure that the key product attributes are properly exhibited (i.e., reports, notices, or other key items are reasonable and correct).
- ☒ QA reviews the deployment processes to ensure that key deployment procedures are adequately performed (testing of external interfaces).
- ☒ QA activities are objectively performed against applicable documented policies, standards, procedures, practices, or conventions and guidelines.
- ☒ An independent QA function is maintained, possibly through an independent vendor.

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